CLAIMS

1. A method for controlling the manufacture of an anisotropic and/or depolarising object in which:

- the object represented by its Mueller matrix is measured ellipsometrically,
- the manufacture is controlled in real-time in relation to the ellipsometric measurement,

characterised in that certain parameters of the Mueller matrix are determined beforehand, parameters suited to the characterisation of the manufacture and only these parameters are extracted from ellipsometric measurement during manufacture, whereas the said parameters are at least two different in number from the ellipsometric angles Ψ and Δ and from the trigonometric functions of the said angles.

2. A control method according to claim 1, characterised in that the said object is anisotropic

3. A control method according to ~~any of the claims 1 or 2,~~ characterised in that the said object is depolarising.

4. A control method according to ~~any of the claims 1 to 3,~~ characterised in that the said object induces diffraction phenomena.

5. A method for controlling the manufacture of an object according to ~~any of the claims 1 to 4,~~ characterised in that the parameters suited to the characterisation of the manufacture are a linear combination of the lines of the Mueller matrix.

6. A method for controlling the manufacture of an object according to ~~any of the claims 1 to 4~~, characterised in that the parameters suited to the characterisation of the manufacture are a linear combination of the columns of the Mueller matrix.

7. A method for controlling the manufacture of an object according to ~~any of the claims 1 to 6,~~ characterised in that the object manufactured is a solid-state component.

8. A method for controlling the manufacture of an object according to claim 7, characterised in that the ellipsometric measurement characterises a layer during deposit.

9. A method for controlling the manufacture of an object according to claim 7, characterised in that the ellipsometric measurement characterises a layer during engraving.

10. A method for controlling the manufacture of an object according to ~~any of the claims 8 and 9,~~ characterised in that the ellipsometric measurement characterises

the composition of the layer.

11. A method for controlling the manufacture of an object according to ~~any of the claims 8 and 9~~ claim 8, characterised in that the ellipsometric measurement characterises the thickness of the layer.

12. A control method according to ~~any of the claims 1 to 11~~ claim 1, characterised in that the manufacture is carried out by gas dissociation and it is controlled by a gas panel.

13. A method for controlling the manufacture of an object according to claim 2, characterised in that the gas panel supplies a plasma reactor.

14. A method for controlling the manufacture of an object according to ~~any of the claims 2 or 13~~ claim 2, characterised in that the gas panel controls gas flow-rates.

15. An installation for making an anisotropic and/or depolarising object comprising an ellipsometer enabling measuring an object that is represented by its Mueller matrix,

characterised in that the ellipsometer measures, in real-time, parameters determined beforehand, suited to the characterisation of the manufacture, whereby the said parameters are at least two different in number from the ellipsometric angles Ψ and Δ and from the trigonometric functions of the said angles, whereby the said parameters are parameters of the Mueller matrix suited to the manufacture.

16. An installation for manufacturing an object according to claim 15, characterised in that it is conducted by gas dissociation.

17. An installation for manufacturing an object to ~~any of the claims 15 and 16~~ claim 15, characterised in that it comprises a coupled modulator at input.

18. An installation for manufacturing an object to ~~any of the claims 15 to 17~~ claim 17, characterised in that it comprises a polarimeter at output.

19. An installation for manufacturing an object to any of the claims 15 to 18, characterised in that it is suited to the implementation of the method according to any of the claims 1 to 14.

add 9)

add B7